

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of
John J. Price

Group Art Unit: 3731

Serial No.: 10/722,945

Examiner: Melanie R. Tyson

Confirmation No.: 9533

I hereby certify that this correspondence and/or fee is being
deposited electronically on October 28, 2007.
(date of deposit)

Filed: November 26, 2003

Mary P. Mullen 10-25-07
(Signature) Date

For: ARMED SUTURE WITH
ADHESIVELY ATTACHED
SURGICAL NEEDLE

X

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Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

EXTENSION PETITION

Sir:

The undersigned attorney respectfully petitions for a one-month extension of time to reset the deadline for response to the Office Action in the above-identified application from September 27, 2007 to and including October 27, 2007. The Commissioner is authorized to charge the associated \$120 fee to Deposit Account No. 501561. If there are any additional fees due as a result of this Amendment, including extension and petition fees, the Examiner is hereby authorized to charge them to Deposit Account No. 501561.

Respectfully submitted,

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Mary P. Johnson 10-25-07
(Signature) (Date)

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AMENDMENT

Sir:

In response to a final Office Action mailed June 27, 2007, the time period for responding to which has been extended to and including October 27, 2007 by the attached Extension Petition, please make the following amendments in the above-identified patent application.

Amendments to the Claims are reflected in the listing of claims, which begins on Page 2 of this Amendment.

Remarks being on Page 7 of this Amendment.

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the Application.

Listing of Claims:

1. (Currently Amended) An armed suture, comprising:

a needle having ~~a pair of~~ first and second opposed ends and a blind hole formed in ~~one of said ends~~ said first end and extending longitudinally into said needle from said one first end thereof, said hole including a sidewall and a bottom wall disposed at a location intermediate said opposed ends, said hole having a first diameter proximate said first end and a second diameter distal to said first end and distal to said first diameter, said second diameter being greater than said first diameter;

a suture having an end thereof inserted into said hole;

an adhesive having a viscosity, when uncured, permitting said suture to be inserted into said hole, and said adhesive, when cured, bonding said suture to said needle within said hole by way of a mechanical interlock therewith; said adhesive having a viscosity, when uncured, permitting said suture to be inserted into said hole and

means, located in said hole, for increasing the bond between said adhesive and said hole.

2. (Original) The armed suture of claim 1, wherein said adhesive is curable by exposure to electromagnetic radiation.

3. (Original) The armed suture of claim 2, wherein said electromagnetic radiation is UV light.

4. (Original) The armed suture of claim 3, wherein said adhesive is cyanoacrylate.

5. (Original) The armed suture of claim 2, wherein said adhesive is curable by a second curative agent.

6. (Original) The armed suture of claim 5, wherein said second curative agent is a compound.

7. (Original) The armed suture of claim 5, wherein said second curative agent is water.

8. (Original) The armed suture of claim 5, wherein said second curative agent is heat.

9. (Cancelled)

10. (Currently Amended) The armed suture of claim 9, 1, wherein an end of said needle proximate said needle hole is swaged inwardly.

11. (Currently Amended) The armed suture of claim 9, 1, wherein said hole is formed by laser drilling

12. (Previously Presented) The armed suture of claim 1, wherein said hole is unpolished.

13. (Withdrawn) The armed suture of claim 1 wherein said suture hole has at least one groove having an orientation with a component of extension perpendicular to an axial direction of said suture hole.

14. (Original) The armed suture of claim 1, wherein said suture is monofilament.

15. (Withdrawn) A method of making armed sutures, comprising the steps of:

(A) forming a needle hole in an end of a needle;

(B) applying an adhesive between an end of the suture and the needle hole;

(C) inserting a suture into the needle hole

(D) allowing the adhesive to at least partially cure.

16. (Withdrawn) The method of claim 13, further including a step of metering the adhesive onto the suture hole prior to said step of inserting.

17. (Withdrawn) The method of claim 16, further comprising a step of secondarily curing the adhesive.

18. (Withdrawn) The method of claim 17, wherein said step of secondarily curing is performed by exposure to at least one of a chemical curative and heat.

19. (Withdrawn) The method of claim 18, wherein the chemical curative is applied to the suture hole prior to said step of applying.

20. (Withdrawn) The method of claim 15, wherein said step of applying includes dipping an end of the suture into the adhesive prior to the step of inserting.

21. (Withdrawn) The armed suture of claim 1, wherein said bond increasing means includes a groove formed in said hole.

22. (Previously Presented) The armed suture of claim 1, wherein said bond increasing means includes a roughened portion of said sidewall

23. (Previously Presented) The armed suture of claim 22, wherein said roughened portion is reamed.

24. (Previously Presented) The armed suture of claim 22, wherein said roughened portion is laser drilled.

25. (Previously Presented) The armed suture of claim 22, wherein said roughened portion is etched.

26. (Previously Presented) The armed suture of claim 22, wherein said roughened portion includes a conical tip.

27. (Previously Presented) The armed suture of claim 1, further comprising a catalyst disposed within said hole.

28. (Previously Presented) The armed suture of claim 27, wherein said catalyst is disposed between said sidewall and said adhesive.

29. (Previously Presented) The armed suture of claim 27, wherein said catalyst is cyanoacrylate.

30. (Previously Presented) The armed suture of claim 1, wherein said bottom wall has a substantially conical shape.

31. (New) The armed suture of Claim 1, wherein said hole is bottle-shaped and said mechanical interlock is bottle-shaped.

REMARKS

As a result of the foregoing amendments, Claim 9 has been cancelled, and new Claim 31 has been added. Accordingly, Claims 1-8 and 10-31 are pending in this application, with Claims 13 and 15-21 having been withdrawn from consideration.

Applicant's attorney thanks Examiner Tyson for the telephonic interview conducted on September 27, 2007 in connection with the present application. Applicant's attorney also thanks Examiner Tyson for reviewing the draft version of the foregoing amendments and for providing her comments regarding the same in an October 18, 2007 telephone conference with applicant's attorney.

With reference to the Office Action, applicant's attorney notes that independent Claim 1 has been rejected as being unpatentable over U.S. Patent No. 3,910,282 to Messer et al. ("the Messer et al. Patent") in view of U.S. Patent No. 5,891,164 to Dabir et al. ("the Dabir et al. Patent"). More particularly, the Office Action indicates that the Messer et al. Patent discloses some of the elements of Claim 1, but does not disclose an adhesive. The Dabir et al. Patent discloses a needle (20) which includes a bore (32) in which a suture (38) may be secured using cyanoacrylate glue as an adhesive. Claim 1 was also rejected based on U.S. Patent No. 3,354,704 to Dery ("the Dery Patent"), which discloses a needle body (7) having a bore (8), a thread (6) received in the bore (8) and a bonding agent (11) which adheres to the wall of the bore (8).

During the aforesaid interview, Examiner Tyson, Examiner Ho and applicant's attorney discussed the outstanding prior art rejections of independent Claim

1 and of its associated dependent Claim 9 contained in the Office Action. As indicated in the Interview Summary mailed October 9, 2007, Examiner Tyson and Examiner Ho suggested certain claim revisions which would overcome the prior art rejections in the Office Action. By the foregoing amendments, these revisions have been effected in Claim 1. More particularly, Claim 1 has been amended to include the features recited in Claim 9 (i.e., a needle hole having a first diameter proximate a first end of the needle, and a second diameter distal to the first end and distal to the first diameter, the second diameter being greater than the first diameter), and to clarify the location of the hole with respect to the ends of the needle. In such circumstances, applicant's attorney respectfully submits that the Messer et al., Dabir et al. and Dery Patents fail to disclose or suggest, whether considered alone or in combination with each other, the armed suture recited in amended independent Claim 1. It is therefore further respectfully submitted that all of the prior art rejections of Claim 1 have now been overcome, and that amended independent Claim 1 is in condition for allowance.

With respect to Claims 2-8, 10-12, 14, and 22-30, which were also rejected in the Office Action on prior art grounds, all of them now depend from amended independent Claim 1.¹ In such circumstances, Claims 2-8, 10-12, 14, and 22-30 are also believed to be in condition for allowance.

In view of the foregoing amendments and remarks, applicant and his attorney respectfully request reexamination and allowance of Claims 1-8, 10-12, 14, and 22-30, and the examination and allowance of new Claim 31. If, however, such

¹ Claims 10 and 11, which previously depended from Claim 9, have been amended to depend directly from Claim 1.

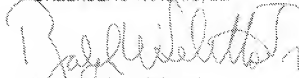
Appin. Serial No. 10/722,945
Reply to Office Action Mailed June 27, 2007
Amendment Dated October 25, 2007

action cannot be taken, the Examiner is cordially invited to place a telephone call to applicant's attorney in order that any outstanding issue may be resolved.

If there are any additional fees due as a result of this Amendment, including extension and petition fees, the Examiner is hereby authorized to charge them to Deposit Account No. 501561.

Respectfully Submitted,

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